Georgia Institute of Technology

Extending Homeownership Opportunities to Prospective Borrowers Burdened by Student Loan Debt

A Case Study of Fannie Mae's Student Loan Solutions Program in the Atlanta Metropolitan Statistical Area

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Executive Summary

Since 2006, Student loan debt has ranked second in national consumer debt, falling second only behind household debt and exceeding debt from auto loans and credit cards (Federal Reserve Bank of New York, 2018). While there are many negative and significant outcomes related to exorbitant student loan debt that are of concern to policy makers and other stakeholders, the focus of this applied research is on access to homeownership. Few policies and programs exist which directly address this seemingly causal link between student loan debt burden and homeownership. On the federal level, a recent initiative has been implemented by Fannie Mae, one of the major insurers of conventional loans and available in every state and most localities nationwide, to directly address this issue. The Student Loan Solutions Program seeks to address barriers to mortgage loan application approval for those with significant student loan debt burden. This applied research study seeks to explore the effectiveness of this policy, providing an assessment of its capacity to meet the needs of the target population.

This study seeks to explore and describe the suitability of current policy and programming in increasing access to homeownership for prospective borrowers burdened by student loan debt. Specifically, this study will explore how well current policy and programming mitigate barriers faced by prospective borrowers burdened by student loan debt in obtaining debt financing toward the purchase of a primary residential property. The results highlight salient themes related to this broad area. From the literature review and data analysis, it follows that generational effects, racial equity, credit history, and debt-to-income ratio calculations stand out most.

Introduction

Since 2006, Student loan debt has ranked second in national consumer debt, falling second only behind household debt and exceeding debt from auto loans and credit cards (Federal Reserve Bank of New York, 2018). The accumulation of student loan debt is an outcome of the distribution of federal or private financial aid in the form of loans, towards the financing of post-secondary education costs, and requires repayment by borrowers. The magnitude and distribution and pervasiveness of student loan debt are indirect indicators of the importance of post-secondary education in the United States, which serves as a large determinant of an individual's potential employment prospects, career choice, lifetime earnings potential, and other individual outcomes. Post-secondary education and the financing thereof are and have been of local, regional, state, and national interest since its inception and has broad security, economic development, and quality of life implications.

While there are many negative and significant outcomes related to student loan debt that are of concern to policy makers and other stakeholders, the focus of this applied research is on access to homeownership. This has been addressed by a number of articles, reports, and research efforts. One such example is a 2017 brief presented by analysists Federal Reserve Bank of New York reported findings of an association between student loan debt burden and homeownership (Chakrabarti, Houghwout, Lee, Scally, & van der Klaauw, 2017). Specifically, the association indicates lower levels of homeownership among those with significant student loan debt burden.

Few policies and programs exist which directly address this seemingly causal link between student loan debt burden and homeownership. On the federal level, a recent initiative has been implemented by Fannie Mae, one of the major insurers of conventional loans and available in every state and most localities nationwide, to directly address this issue. The Student Loan

Solutions Program seeks to address barriers to mortgage loan application approval for those with significant student loan debt burden. This applied research study seeks to explore the effectiveness of this policy, providing an assessment of its capacity to meet the needs of the target population.

The purpose of this document is to present and describe the supporting rationale, process, results, and findings relevant to this applied research. The first part of the report is the literature review, which explores five major subject areas: background of problem, postsecondary education finance, debt financing and homeownership, the Fannie Mae Student Loan Solutions Program, and Explanatory Theories. The background section describes the underlying social and economic issues which motivate this study. The sections pertaining to postsecondary education finance provide a brief and high-level policy history of the federal student loan infrastructure, the financial aid process, borrowing and repayment, demographics of borrowers, and critical issues. The section on student loan debt relive provides an overview of paths toward student loan forgiveness, focusing on federally-funded and administered programs. Under financing and homeownership, the home acquisition and mortgage qualification process is described, followed by an explanation of types of mortgages and critical issues. Next, provisions outlined under the student loan solutions program are briefly described. The section on explanatory theories provides a brief description on the theories, how they fit within the research framework, and how they might inform interpretation of findings.

The second part of the paper focuses on the applied research. Following a description of the research design and methods, the case study geography and other characteristics are described. Next is the findings, which is grouped by those found in the literature and data analysis, and culminates in an assessment of the Student Loans Solutions Program. From the findings, programmatic recommendations are described along with policy implications.

Background

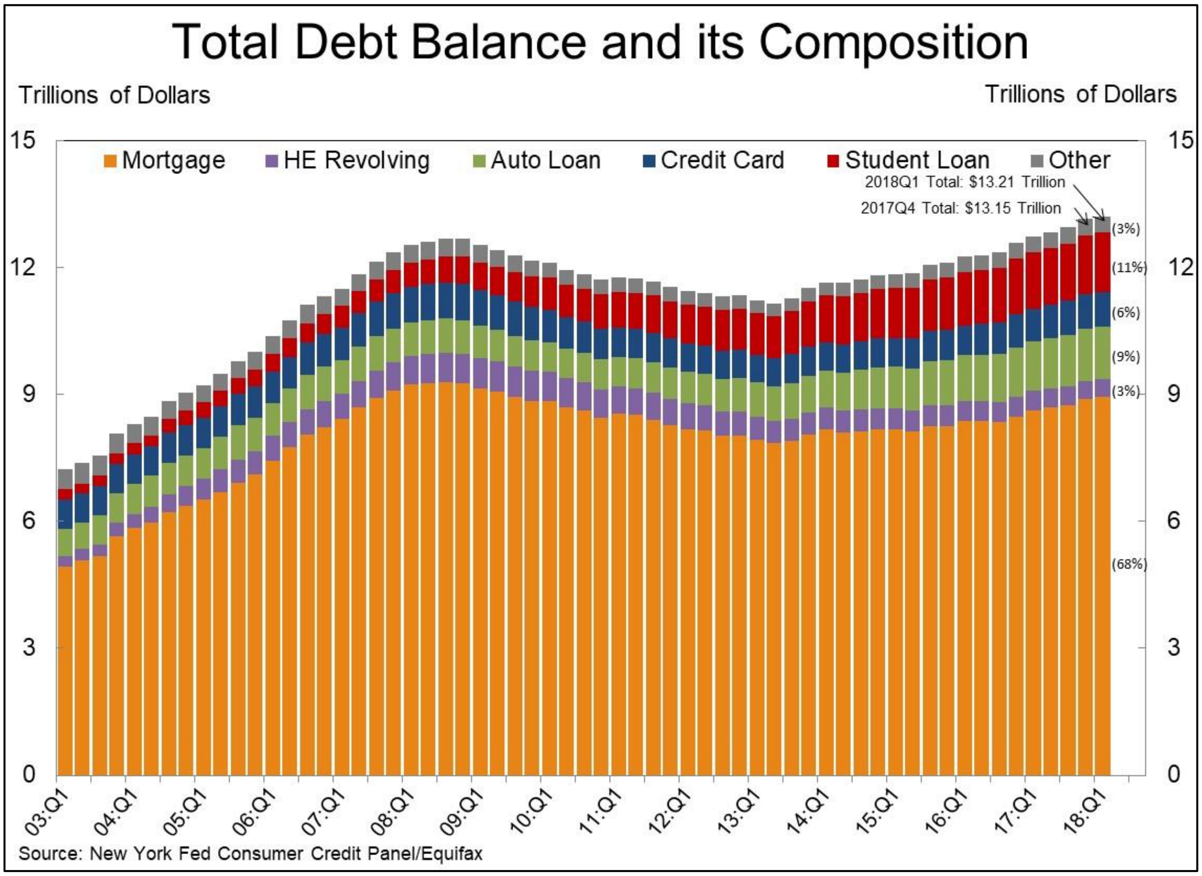

Figure 1 - Q1 2018 Share of Consumer Debt (Federal Reserve Bank of New York, 2018)

The total nation-wide student loan debt burden as of the 1st quarter of 2018 was $1.407 trillion, which represents 10.6% of the $13.21 trillion national debt. While mortgage debt has consistently represented the largest source of debt over the past few decades, student loan debt has steadily risen in the ranks, ultimately representing the second highest consumer debt. From 2003 to 1Q 2018, the nationwide student loan debt has increased an average of 3 % per year, resulting in the total debt rising u up from 246 billion in the 1st quarter 2003 to 1.407 trillion. This rate of increase is significantly higher than that of the total nationwide consumer debt, which has increased at a rate of 1% per year since 1st quarter 2003 (Federal Reserve Bank of New York, 2018). From this, it appears that student loan debt is growing faster than other types of consumer debt.

The nationwide student loan debt is distributed among 42.8 million borrowers (federal loans only) with an average balance of $33.14 million per borrower. While the cumulative number of recipients consistently increased annually from 2007, the rate of increase has consistently decreased since 2010. The rate of increase peaked at 6.8% from 2009 to 2010 and fell to 0.7% from 2017 to 2018. The average debt balance has generally increased at a higher rate than the cumulative number of borrowers, peaking at 6.8% from 2009 to 2010 (U.S. Department of Education, n.d.).

Significant student loan debt burden yields adverse consequences both on an individual and broader economic scale. This is described in a survey administered in 2015 by staff at StudentLoanHero.com. Such consequences include but are not limited to 1) extended residences at parents' homes, 2) delayed procurement of primary residential properties, 3) delayed purchasing of a car, 4) delayed or forgone entrepreneurship, and 5) limited to no ability to work in a preferred field of study (Josueweit & StudentLoanHero Staff, 2015). These individual consequences not only have quality-of-life implications for the affected, but also translate into broader economic, and issues of national security for local, regional, state, and even national government.

Despite the consequences, access to student loans to help fund postsecondary education costs increases access to higher education, which is beneficial for a number of reasons. First, completion of a four-year degree program or higher decreases unemployment levels. An increasing number of jobs require a level of knowledge and skills attainable only through completion of a four-year degree or higher. Naturally, a higher educated workforce will be better able to compete in the labor market for these types of jobs. What follows from this is the second benefit, which is increased income levels. Jobs that require advanced degrees pay significantly more than those that do not. According to a 2016 article published on StudentLoanHero.com, obtainment of a bachelor's degree garners $1 million more in lifetime in earnings compared to those with less than a bachelor's degree (Kirkham, 2016). Thirdly, since attainment of a post-secondary degree increases incomes and lowers unemployment, the tax base is increase, which leads to increased revenue for local, regional, and state governments, which may ostensibly be used to fund public services such as infrastructure improvement, schools, and more.

Homeownership presents a number of benefits for homeowners. These include but are not limited to wealth-building via equity, decreased federal tax liability, and other social benefits. Fewer homebuyers, conversely, cause stagnation in the increase of home prices, which leads to decreased wealth accumulation in the form of home equity. A decrease in homebuying leads to reduced participation in the mortgage markets, which will decrease revenue flow for banking and investment firms (Kirkham, 2016). As a particularly large of a share of the national and world-wide market as mortgage markets are, as demonstrated by the catastrophic housing market crash of 2007, this has the potential to be increasingly problematic if allowed to fester.

A study which focused on the direct impacts of student loan debt burden was published in 2016 by researchers at the Federal Reserve Board of Washington, DC. This study was the first of its kind to explicitly and intentionally attempt to identify the causal impacts and mechanisms of homeownership rate for individuals due to changes in student loan debt. A major outcome of this study was the empirical demonstration of a causal relationship was indeed determined between student loan debt and homeownership. Specifically, the study found that for every $1,000 increase in student loan debt accumulated prior to age 23, the rate of homeownership decreases by 1.5 percentage points, which is equivalent to a 2.5-month delay in homeownership. Another empirical finding was the empirical demonstration of a connection between credit history and student loan debt, citing increased probability of default for higher debt burdens, thereby also impacting credit score (Mezza, Ringo, Sherlund, & Sommer, 2016).

Financial Aid and Postsecondary Education

Post-secondary education is provided at a level beyond that of high- school and falls into a number of different categories. First, postsecondary education can occur at the undergraduate or graduate level. Undergraduate education, which precedes advanced study in professional fields or research disciplines, culminates in the award of an Associate's Degree, usually requiring 2 years of coursework, or a Bachelor's degree, usually requiring 4 years of coursework. Postsecondary education at the graduate level include professional and research studies, and culminates in a Master's Degree or a Doctoral Degree (ereferencedesk, n.d.; U.S. Department of Education (e), n.d.). Also, postsecondary education institutions may be public, which are those funded or operated by federal or subnational governments, or private (for-profit or non-profit), those that are run by private entities. Private institutions may be further categorized by specific special interests such as single-sex, religiously-affiliated, or Historically Black Colleges or Universities (HBCUs).

The nationwide system of financial aid makes post-secondary education accessible for a significant part of the population. In the sections that follow, a brief background and policy history are provide, thereby establishing national interest in the state of financial aid, including student loan debt. Next, the financial aid process is discussed in detail, followed by further explanation of borrowing and debt repayment. This section ends with a brief explanation of critical issues, touching on predatory lending, costs of education, the prevalence of loan defaults, and racial inequity.

Background and Policy History

Having its origins linked to provisions outlined under the Servicemen's Readjustment Act of 1944, otherwise known as the GI Bill, the current federal system of financial aid has consistently managed to attract its fair share of criticism from both sides of the political spectrum. Cumulatively, each of these polices as described below have helped solidify the relationship between federal and subnational governments with the evolving system of financial aid. Ultimately, each entity has developed vested interest in the health and vitality of this system.

Throughout the 1950s, following the notable upsurge in student enrollment following the passage of the GI Bill, came a wave of scrutiny focusing on both the cost and quality of higher education, along with the appropriate level of involvement of the Federal government. An artifact of this sentiment emerged in the form of two prominent reports: the Higher Education for American Democracy report and the Senate Special Committee Investigation of National Defense Program (referred to hereinafter as the Truman Commission Report). Both reports, each informed by a number of on-campus site visits of sample postsecondary education institutions, incorporated a number of findings a recommendation, including federal and nation-wide support of equitably distributed – among states and along racial boundaries – aid such as fellowships and scholarships (Fuller, 2014).

In response, The GI Bill was reauthorized in 1952 and incorporated a number of upgrades from its original form. First, the act instituted a requirement that the institutions chosen by veterans must be approved by Veterans Administration or other State agencies. Second, the act required a minimum of 15% attendance by non-veterans at the institution of choice (CQ Almanac, 1952). Finally, benefits were increased for Korean War veterans (original beneficiaries of the GI Bill were veterans of World War II).

The 1980s marked a period of an increased presence of conservative politics, alongside increase concern and skepticism over costs of and federal spending towards higher education. Perhaps the most vocal opponent as the secretary of education – William Bennet, who served from 1985 through 1988. According to Bennet, increased costs of higher education were merely a function of unscrupulous colleges and universities that increased tuition with increased availability and reliability of federal student aid. Such rhetoric helped fuel reductions in many aid programs, though not as harshly as other cuts made by the Reagan Administration (Council for Opportunity in Education, 2013). These reductions, however, would not be sustained through the following decade

The 2008 Reauthorization of the Higher Education Act, under the name “The Higher Education Opportunity Cost Act of 2008, echoed past and current sentiments criticizing increasing education costs. Similar to the 1993 reauthorization, this iteration created new data reporting requirements, including the of institutions with the highest tuition, fees, net costs, and tuition increases. It also further simplified loan consolidation and lending practices in addition to loan forgiveness opportunities

In 2012, following the catastrophic housing market crash of 2007 and the ensuing fears it spawned, discourse began to shift to the potential of predatory lending in higher education. These fears were further fueled as total consumer student loan debt in 2012 surpassed the one trillion-dollar mark. A NY Times article, citing a report by the Consumer Financial Protection Bureau, told a tale of overly-aggressive underwriting practices of student loans, similar to tactics which led to financial instability in the housing market. Additionally, according to the article, these findings have led government officials to increase surveillance of the financial aid market via the authority granted by the Dodd-Frank legislation, while also insisting to congress that they consider the inclusion of private loans in bankruptcy proceedings as well as more complete disclosure of terms during the loan application process (Rampell, 2012).

In response, The Student Loan Forgiveness Act of 2012 was sponsored Michigan Representative Hanson Clarke. This proposed legislation included many provisions, most notable of which is the inclusion of borrowers not working in public service provisions and proposing a cap on interest rates for federal loans. At the time, opposition came largely from the republicans of the house. Other opposition was related to noted difficulty in making consistent payments for 120 months, noting default and delinquency rates of the time. Also, the sponsor of the bill, falling victim to re-districting, lost re-election and departed congress in 2013 (Council for Opportunity in Education, 2013).

Financial Aid Process

Participation in any federal student financial aid program requires students (or their parents for those still considered dependent) to complete the Free Application for federal Student Aid

(FAFSA). During the 2015-2016 application cycle, there were approximately 19.8 million applications submitted, of which 55% were original applications and 45% were renewals (U.S. Department of Education (c), 2017). Once completed, this application is processed by the U.S. Department of Education, whereby the expected Family Contribution (EFC) – which is the required amount that student applicants and their families are expected to contribute towards the cost of education – is determined. This amount is subsequently reported to each of the schools of interest, which is indicated by the student on the FAFSA, and then used by each institution to determine the financial aid award to the student. The total award amount is calculated by calculating the cost of attendance, which includes tuition, fees, housing, books, and others – and then subtracting the pre-determined EFC and other non-federal aid as applicable. To cover costs as calculated under EFC, unsubsidized Stafford Loans and PLUS loans are options for students or parents (The Consumer Finance Protection Beaureau; U.S. Department of Education, 2012).

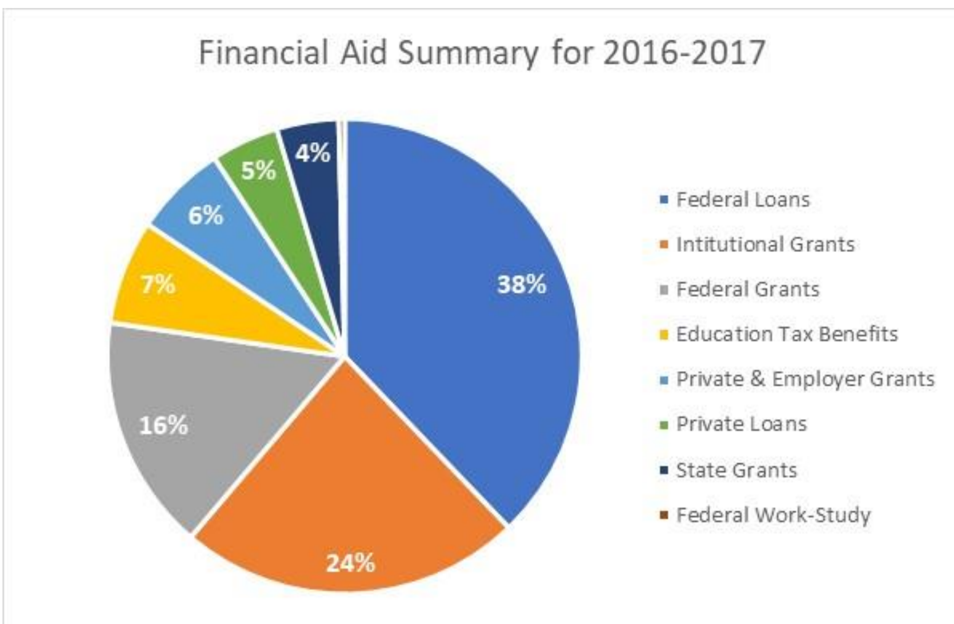

Figure 2 - Distribution of Financial Aid for the 2016-2017 Academic Year

Financial Aid is administered from a number of different sources and through a number of different products. These products include federal grants, loans, and work study; grants from state, institutions, employer, or other private sources; or private loans. Of these, federal loans have historically and continue to account for the greatest amount. During the 2016-2017 academic year, federal loans accounted for 38% of the distributed financial aid, while institutional and federal grants account for 24% and 16% of the total aid respectively (Baum, Ma, Pender, & Welch, 2017).

Borrowing

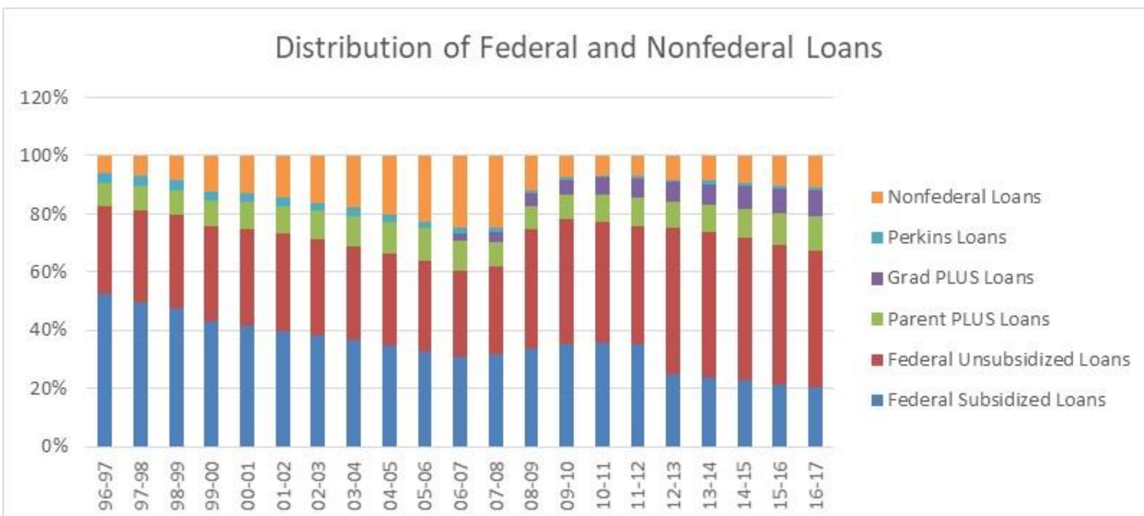

Figure 3 - Distribution of Federal and Nonfederal Loans Over Time (Baum, Ma, Pender, & Welch, 2017)

Direct Subsidized Loans are reserved for undergraduate students with pre-determined financial need. For these loans, the U. S. Department of education pays the periodically accruing interest during a period where the students are 1) enrolled in school for at least half-time; 2) during the grace period, which occurs within 6 months post-graduation; 3) during a period of deferment, which is a temporary postponement of required loan payment allowed only under certain conditions (U.S. Department of Education (g)).

Direct Unsubsidized Loans, are reserved for both undergraduate and graduate students with no prerequisite of demonstrated financial need. As implied above, the maximum amount is calculated as a function of cost of attendance as well as EFC. Unlike the case of Direct Subsidized Loans, the U.S. Department of Education does not pay interest while students are enrolled in school, during the grace period, or during deferment. Therefore, the total balance due gradually increases from the origination amount in accordance with the interest rate assigned at loan origination (U.S. Department of Education (g)).

PLUS loans, which includes Parent PLUS and Graduate PLUS loans, require a review of the applicants' credit history, unlike direct loans. Parent PLUS loans are accessible by parents of dependent undergraduate students while Graduate Plus Loans are accessible by professional or graduate students. Both are processed and distributed by the U.S. Department of Education (U.S. Department of Education (i)).

Perkins Loans are made through the Federal Perkins Loan Program, and are low-interest federal loans reserved for those undergraduate and graduate students who have demonstrated an "exceptional financial need". The school is designated as the lender and, thus, payments are remitted to the schools' loan servicer. Unlike Direct Loans, there are many institutions that do not participate in this program and are also contingent upon funds available at participating institutions (U.S. Department of Education (h)).

Private student loans, or nonfederal loans, are originated and serviced by a variety of lending institutions which include credit unions, banks, state agencies, or schools. Unlike Federal Student loans, private loans could require payments while students are enrolled in schools, could have variable interest rates, have rates that soar into the double digits, are not subsidized, may not be tax deductible, may not be included in a federal direct consolidation loan, and may not offer options for deferment or forbearance (U.S. Department of Education (j)).

Repayment

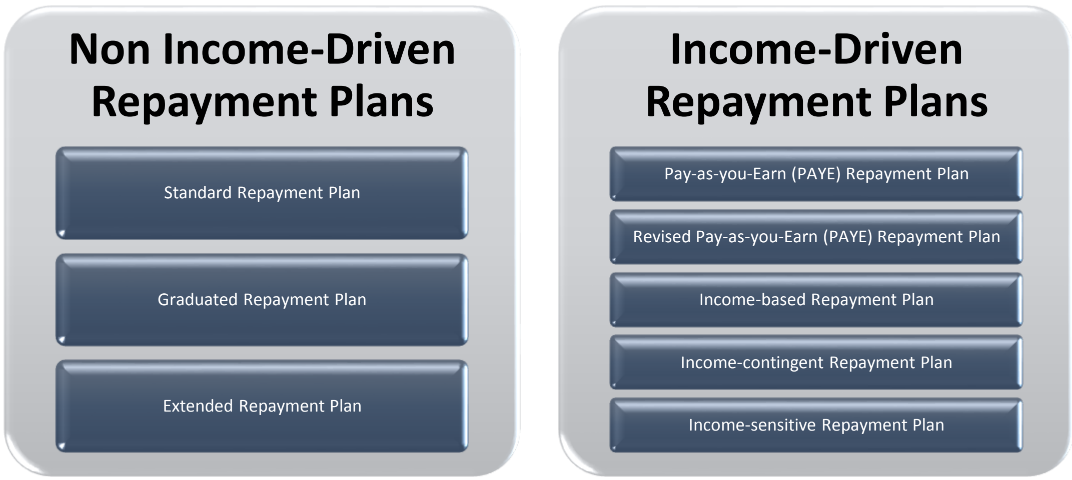

Figure 4 - Repayment Plans ((U.S. Department of Education (l)))

Both federal and private student loans require repayment, whether the recipient has or has not completed the associated coursework or program of study. Repayment of student loans is established between the recipient and the loan servicer, and involves the selection of one of the number of repayment plans to which the borrower qualifies. The payment plans the recipient qualifies for depends on two factors: 1) the type of loan and 2) the income of the recipients. Each repayment plan carries with it minimum payment requirements, which could either be constant or change over time and prescribed loan amortization dates, which could include provisions for partial loan forgiveness (U.S. Department of Education (l)). Further details on each repayment play is provided in Appendix 1.

Borrower Demographics

Throughout the 2016-2017 academic year, there were 19.8 million students, including part-time and full-time enrollees, that were enrolled in degree-granting post-secondary institutions (dates). Of those 19.8 million students, approximately 16.92 (85%) million were classified as undergraduates while approximately 2.91 million (15%)were classified as post baccalaureates. Ten-year enrollment projections indicate an approximate 2% to 5% increase in total enrollment per year with the proportion of undergraduate and graduate students maintaining 2017 proportions (National Center for Education Statistics, n.d.)

Student loans are utilized by prospective or current students pursuing all levels of higher education. During the 2016-2017 academic year, about 30% of undergraduate students received financial aid in the form of federal subsidized and unsubsidized loans. Fifty-nine percent of graduate students at public four-year institutions borrowed to finance education costs while 62% at private not-for-profit four-year institutions borrowed (Baum, Ma, Pender, & Welch, 2017).

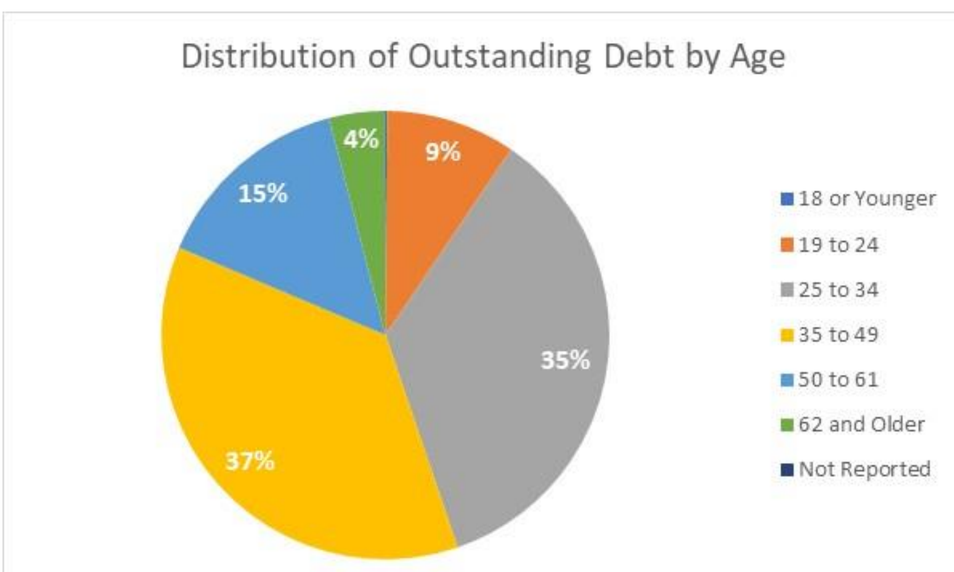

Figure 5 - Distribution of Debt by Borrower (U.S. Department of Education (b))

The total nation-wide student loan debt burden is disproportionately spread along age. Looking at 10-year cohorts (Figure 5 above), most of the debt is shouldered by the 25 to 34 and the 35 to 49 age cohorts, representing 35% and 37% of the total outstanding balance respectively. A much smaller portion of the outstanding debt is carried by the cohorts at age 50 and above, representing only 13% (U.S. Department of Education (b)).

As highlighted by a 2016 report by The Brookings Institution, student loan debt burden is disproportionate between black and white borrowers and begins from the moment they become college graduates. At graduation, black college graduates owed on average $23,400 compared to $16,000 for their white counterparts, representing a $7,400 gap. This gap becomes much larger over the next few years following graduation, becoming a value of $25,000 at the end of 4 years past graduation. The root causes of such stark differences include differences in borrowing amounts as well as interest accrual (Scott-Clayton & Li, Black-white disparity in student loan debt more than triples after graduation, 2016).

Critical Issues

Cost of Higher Education

Cost of education is a significant factor in the increasing student loan debt burdens taken on by borrowers. Data between the 2005-2006 and the 2015-2016 school year highlight the challenges faced by borrowers and other stakeholders regarding the cost of education. During this time, education costs for room and board for undergraduates at public institutions increased by 34%, bringing the average tuition up from $17,523 to $22,432 in constant 2015 dollars (U.S. Department of Education, National Center for Education Statistics, 2018). This is equivalent to a compound annual increase of 2.5% per year. Starting in the 1085-1986 school year, education costs have continued to increase consistently, to the ire of a number of high-ranking individuals, including federal politicians. Given that cost of attendance for private institutions are, on average, significantly higher than those of publicly funded and operated institutions, these increases further compound issues related to these higher tuition costs.

Predatory Lending

Predatory lending refers to practices whereby a lender will promote or facilitate loan transactions to prospective borrowers while intentionally either ignoring or hindering their ability to repay the debt and often take advantage of the borrower's lack of knowledge (Fay, 2017). Knowledge of predatory lending practices has become increasingly wide-spread over the past decade, more notably in a 2012 report on Private Student Loans delivered to various House and Senate comities by the U.S. Department of Education and the Consumer Finance Protection Bureau. An article published in by the New York Times in the Business & Policy section provides further details of the issue of predatory student loans. The article details efforts of victims of predatory lending and how the (involuntary) collusion of lenders such as Navient, a spin-off of Sallie Mai which retained a majority of the company's portfolio, and for-profit private institutions saddled borrowers with massive debt for fraudulent services. Lawsuits filed by two state attorneys general and a federal regulator levy a number of accusations including systematic failures mimicking those present in the 2007 mortgage crisis, mishandling loan payments, burying critical information in fine print, and deliberately steering borrowers away from income-based repayment plans (Cowley & Silver-Greenberg, 2018; Cowley & Silver-Greenberg, 2017). The impact has been largely negative on victims of such practices, limiting career prospects and saddling many with debt they are unable to pay.

Loan Default

Towards the end of the first quarter of 2017, approximately 16% of borrowers were in default status. This figure, however, represented only 10% of the total outstanding dollars. Thus, borrowers in default carried lower average balances compared to the others (Baum, Ma, Pender, & Welch, 2017). A 2017 study published by Brookings Institute highlighted many notable findings related to student loan default rates. First, cumulative default rates are increasing over time, with projections indicating that 40% of borrowers could potentially be in default status on their loans by the year 2023. Next, it characterizes both debt and default rates among black college students to be at "crisis levels", noting that black B.A. graduates have a default rate five times higher than that of their white counterparts, even more likely to default than white dropouts. Finally, it notes exceptionally high dropout rates for borrowers who attended for-profit colleges, noting that 43 out of 100 students defaulted within 12 years of matriculation in the 2004 cohort (Scott-Clayton, The looming student loan default crisis is closer than we thought, 2018).

Racial Inequity

In recent years, the dialogue on the disparate outcomes between white and black students who have pursued post-secondary education has become quite elevated and has sounded off the alarms. These outcomes – student loan debt burden and loan repayment default rates – have important and broader impacts on the wealth-building potential of the black population and the ever-persistent wealth-gap. Four elements have been identified to help explain these disparate outcomes: familial wealth, employment discrimination, differential enrollment at private post-secondary institutions, and dependent status at time of enrollment.

Historic and persistent disparities in familial wealth between white families and black families have long been cited as a driver of student loan debt burden gaps. As implied by Fenaba R. Addo in a 2018 article published by the Federal Reserve Bank of St. Louis, the current federal financial aid system helps perpetuate the wealth gap in the way financial aid decisions are made. Specifically, such decisions are income-based, rather than wealth-based. Such disparities in familial wealth affects that which may be transferable to children pursuing post-secondary education, thereby mitigating the probability of debt burden. Specifically, white families are better positioned to accomplish this, given their relative wealth in comparison to black families. Data from the 1997 cohort of the National Longitudinal Survey of Youth was used to conduct analysis of reported education contribution by parents. The survey found disparities in both the incidence of such contribution as well as the amount. Black young adults reported contribution from parents 58% of the time at an average of $4,200 throughout their college experience. For white families, there was a 72% incidence of contribution at an average of $12,000 throughout the entirety of their offspring's' college career (Addo, 2018).

Research has penned employment discrimination as a major factor in persistent and increasing wage inequality and, thus, wage gaps nationwide. In a 2016 report published by researchers at the Economic Policy Institute, the wage gap between blacks and whites are larger than they were in 1979. The study found significant differences in earnings along the lines of both gender and race, controlling for education level, professional experience, and region of residence. As of 2015, black men earned 22% less than their white counterparts. Black women, while earning 34.2% less than their white male counterparts, earned 11.7% less than white females (Wilson & Rodgers, 2016). The research also found that wage gaps are not mitigated by attainment of a post-secondary degree. From this, the research implicates discrimination as the source of the growing wage gaps and advocates for increased direct and intentional action on the part of law-makers and decision makers.

Differences in levels of borrowing for post-baccalaureate have been identified as source of the student loan debt burden gap. In a 2016 report published by the Brookings Institute, researchers found a significant proportion (45%) of the borrowing gab between blacks and whites. There are three factors that play into this differential. First, black college graduates are more likely to pick up debt to finance education costs than their white counterparts – 40% for the former and 22% for the latter. Second, black college graduates are more likely to pursue a graduate degree than their white counterparts. The study found that, of the 2008 cohort, nearly half of the black graduates enrolled in a post-baccalaureate program while only 38% of their white counterparts followed suit. Finally, the study found that 28% of blacks pursue graduate studies at for-profit institutions while less than 10% of their white peers did the same (Scott-Clayton & Li, 2016).

It was previously noted that a higher percentage of black college graduates pursue post-baccalaureate degrees at private post-secondary institutions compared to their white counterparts. Based on a study of 2003-2004 cohorts, though higher across the board, default rates were particularly high for the black cohort at private institutions, both non-profit and for-profit. The default rate for blacks was 65% for private non-profit four-year institutions while the rate for whites was 33%. The rate was higher for both for whites and blacks for private for-profit institutions, though more so for blacks. In this category, the default rate for blacks was 75% and 50% for whites (Miller, 2018). This data further reinforces the critical role of choice of institution as it relates to student loan debt repayment performance characteristics, particularly for black borrowers.

Student Loan Debt Relief

A number of student loan debt relief programs have been initiated via federal, state, or various local entities. These programs may come in a variety of forms including student loan forgiveness, tuition reimbursement, or direct payment by third parties. The most prominent and pervasive loan forgiveness programs are administered at the federal level. However, most of the 50 states offer at last one form of student loan forgives and may be tied to a variety of conditions such as career field, willingness to work in an area of need such as a rural area, working full time, and more (lendedu, 2018). Also, a select few employers, not excluding the United States Government, offer their own form of student loan forgiveness. For the purposes of this document, the focus will be placed on federally-administered programs given their wide-spread availability and prominence.

Teacher Student Loan Forgiveness

Teacher student loan debt forgiveness is provisioned under the Federal Family Education Loan Program, established under the Higher Education Act of 1965. Under this program, forgiveness of up to $17,500 on both subsidized and unsubsidized direct loans is made available for those who teach for five complete and consecutive academic years in an educational service agency or in a school in a low-income census tract. Forgiveness of the entire outstanding balance of a consolidation loan is available for those with either a Direct or a Federal consolidation loan. Under this program, a default on repayment automatically leads to disqualification from receiving benefits of this program (U.S. Department of Education (f), 2017).

Federal Perkins Loan Teacher Cancellation

Federal Perkins Loan Teacher Cancellation grants those who are eligible a cancellation of up to 100% of a Federal Perkins Loan. Eligibility requirements include performing one of the following roles while serving full-time in either a non-for-profit or public elementary or secondary school system:

1) a teacher serving students in a school serving a low-income census tract;
2) a special education teacher serving infants, toddlers, children, or youth with disabilities, or
3) a teacher in a field of expertise (e.g. mathematics, science, foreign languages, etc.…) with a shortage of qualified teachers, as determined by the education agency of that state.

In addition to teaching, there are other types of service and employment whereby either partial or full Perkins Loan cancellation are made eligible. This list includes but is not limited to: law enforcement officer, firefighter, nurse or medical technician, or public defender (U.S. Department of Education (k), 2017). While the Federal Perkins Loan program expired in September 2017, borrowers who received disbursements prior to the expiration date may still qualify for the cancellation (Tretina, 2017).

Public Service Loan Forgiveness Program

The Public Service Loan Forgiveness Program provides for complete forgiveness of Direct Loan balances provided the payment of consecutive and qualifying monthly payments over a 10-year timespan. For this program, qualifying employment includes any specific job within a government organization at the federal, state, local, or tribal designation; not-for-profit organizations with tax-exempt status under Section 501© (3) of the Internal Revenue Code; or other types of not-for-profit organizations. The eligible most be directly employed by either of these institutions and cannot be employed by a contracting firm. Qualifying payments are those that are made in a timely fashion (no later than 15 days past the due date), for the full amount displayed on bill, under a qualifying repayment play, and whilst employed by a qualifying employer on a full-time basis. Those who default on their payments do are rendered ineligible for the Public Service Student Loan Forgiveness Program (U.S. Department of Education (d), 2017).

Critical Issues

Data suggests a vast gap between prospective student loan recipients who may benefit from federal programs and the population that has borrowed to-date. As of June 30, 2017, the number of eligible borrowers enrolled in the Public Service Student Loan Forgiveness program is about 670,000. The number of eligible borrowers enrolled in the Teacher Loan Forgiveness Program is about 37,000. Between these two programs, about 707,000 eligible borrowers are enrolled in a form of federally-sponsored loan forgiveness programs. Recalling the over 42 million borrowers impacted by student loan debt, an impression might be made that a significant number of prospective policy beneficiaries, for any variety of reasons, are unable to take advantage of benefits offered under the current programs (U.S. Department of Education (a), n.d.).

A second issue lies in the timeline between graduation and receipt of benefits. What's important to note is that, out of the eligible borrowers enrolled in a loan forgiveness program, only a small fraction of these eligible will receive benefits in the near term. Recalling the criteria outlined above, receipt of benefits under the public service loan forgiveness program requires the borrowers to make 120 consecutive qualifying monthly payments. For Teacher Student Loan Forgiveness, that number is 5 years. Thus, there is quite a lag time between program enrollment and the receipt of benefits. Within those time frames, borrowers must maintain eligibility by successfully meeting requirements at all times, which includes making timely and sufficient payments. Otherwise, the borrowers are consequently rendered ineligible. Given potential instability within certain employment sectors and occupations, these requirements appear to be quite prohibitive and, therefore, not as advantageous.

Finally, equity issues arise in the delivery of benefits of student loan forgiveness. Previously noted the disproportionate default rates for black borrowers and those who attend private post-secondary institutions. Based on the eligibility criteria, it follows these cohorts would disproportiately be excluded from these federal programs. In the future, law makers ought to consider incorporating more flexible eligibility criteria to mitigate these inequities.

Financing for Homeownership

For much of the history of the housing market since the establishment of the Federal Housing Authority (FHA), most (first-time) home-buyers have required a mortgage (a loan whereby the property is held as collateral) to finance the purchase of a home. The process of obtaining a mortgage is interwoven within the overall process of homebuying. There are a number of mortgage products available. However, this research considers only two: FHA-insured mortgages and conventional mortgages. The following subsections provide further details for each, and culminates in a discussion of selected critical issues related to prospective borrowers riddled with student loan debt successfully obtaining a mortgage.

Home Purchasing Process

The process of securing debt financing towards the purchase of a residential property involves many steps interwoven in the roughly 12-step process of homebuying and is scatters throughout (see Figure 6).

Figure 6 - Home Purchasing Process ((Arcus Lending Inc, 2018))

In the beginning steps, the prospective homebuyer identifies potential lenders and applies for pre-approval for debt financing. Receipt of a pre-approval letter signifies the conditional commitment by the lender to the applicant to lend a pre-determined amount towards the purchase of a home (Freddie Mac, 2016). Through the application, loan officers collect information – employment, income, liabilities, credit history, etc. – which will be used to determine whether the applicant will be pre-approved for debt financing and how much. This pre-approval amount serves as a guide with which a prospective homebuyer or realtor locates and bids on properties of interest. Once these and other steps of the process are undertaken, the loan underwriting and origination process can begin. It is important to note that the process may be terminated at any point during this process, even if an applicant is successful at securing a pre-approval letter, which can include an applicant opting out of the terms and conditions of the loan products, insufficient collateral (property appraising at a lower value than the agreed to sale price) as flagged following property appraisal, insufficient equity contribution (down payment), which will be further discussed in the subsection that follows.

Qualifying for a Mortgage

There are a number of factors which determine the qualification of a perspective borrower for a mortgage. However, for the purposes of this study, three particularly important factors will be explored: debt-to-income (DTI) ratio, credit history, and down payment. DTI ratio is used to measure an applicant's ability to not only manage your current debt obligations, but also measure any future monthly mortgage payments. Lenders calculate two variations of DTI ratio, called the front-end DTI ratio, which considers only household debt obligations such as mortgage and mortgage insurance, and back-end DTI ratio, which considers all debt obligations. Applicants with DTI ratios below the established threshold will fail to be pre-approved for financing. These thresholds vary depending upon the loan products provided by the lender (to-be discussed further below). Lenders obtain and use credit reports to assess an applicant's credit history. Applicants who with credit ratings below the pre-established threshold, which varies depending upon the lo.an product, are denied pre-approval for financing. Finally, applicants are required to provide a down payment towards the purchase of a residential property as pre-approved financing will likely not cover total housing costs (including underwriting and other closing costs). Various loan products come with different minimum DTI ratio, credit history, and minimum down payment requirements.

Types of Mortgage Loans

Mortgage loans are classified as either FHA loans or conventional loans. FHA mortgage loans are those guaranteed and insured by the Federal Housing Administration (Zillow, 2018). A conventional mortgage loan is neither insured nor guaranteed by the federal government, and is backed by and follows guidelines established by either Freddie Mac or Fannie Mae (NFM

Lending, 2013). There are comparative advantages and disadvantages associated with each type of loan, some of which will be described below.

Conventional loans are ideal for applicants with relatively stronger credit history, higher income streams, and have access to liquid wealth which may easily diverted towards a down payment. Typically, they require a minimum credit score of 640, a minimum down payment of 5% of the purchase value of the property, and hard maximum back-end DTI of 43%. Mortgage insurance is required only when down payments of less than 20% are contributed towards the purchase of the home. Borrowers are required to carry mortgage insurance up into 78% of the principal is paid off, at which point it may be cancelled (The Lenders Network).

FHA loans, with their provisions for lower minimum down payment requirements, lower minimum credit score (580), and lower closing costs (3.5%), make them particularly favorable for many first-time home buyers (U.S. Department of Housing and Urban Development; Zillow, 2018). Prospective borrowers with lower credit scores, however, may still be able to qualify for a mortgage loan. However, they will be subjected to higher down payment requirements or higher interest rates. Though the preferred for maximum DTI ratio are 31% and 43% for front-end and back-end ratios respectively, applicants with ratios as high as 40% (front-end) and 50% (back-end) may secure approval pending ample justification from the lender. Mortgage Insurance is required for FHA mortgage loans, and lasts throughout their amortization period (Zillow, 2018).

Critical Issues

It turns out that the presence of significant student loan debt presents formidable challenges to applicants in obtaining debt financing using either conventional or FHA loans. Depending upon whether the loan is backed by Freddie Mac, Fannie Mae (prior to the adoption of the Student

Loans Solutions Program), or FHA, the guidelines for the inclusion of student loan debt payments vary. Further details are described below:

Freddie Mac

For those who have already entered into the repayment period, lenders may use repayment amounts as reported on a credit report to calculate back-end DTI ratios. Under this loan program, income-based repayment plans are acceptable. For those whose student loans are in deference or forbearance or is not being reported on the credit report, lenders calculate the repayments as one percent of the outstanding balance and use this figure to calculate the DTI ratio (Berry, 2017).

Fannie Mae

Prior to the implementation of the Student Loan Solutions Program, there were a number of methods with which student loan repayments could be calculated to be factored into the DTI calculations. Unlike conventional loans backed by Freddie Mac, income-based repayment plans are not acceptable (hence the multiple repayment calculation methods). The monthly repayments may be calculated using one of the following four methods (Berry, 2017):

1) One percent of the remaining balance
2) Monthly payment required to fully amortize the loan as shown on the credit report
3) Monthly payment required to fully amortize the loan detailed via the loan repayment terms.
4) Monthly repayment required to fully amortize the loan based on prevailing student loan interest rates and other criteria as outlined by Fannie Mae Guidelines

FHA

Irrespective of payment status or repayment plan, lenders are to use either 1% of outstanding loan balance or the amount shown on the applicant credit report. The lender will use the largest of these to values to calculate back-end DTI ratio. (Berry, 2017)

Racial Discrimination

Historically, access to credit was restricted by the employment of two types of discriminatory practices. The first type amounts to the outright refusal by lending institutions to provide mortgages for home purchases for African-American prospective borrowers simply on the basis of race. Such practices have long history in the United States, and fit within a wider narrative of general and pervasive racism that has long been a part of the American cultural fabric. As far back as 1917, for example, a black newspaper – the Cleveland Advocate – reported a refusal of banks to provide financing to African-Americans for the development of large-scale housing for African-Americans in an area located within the south side of Chicago (Immergluck, 2004).

A more sophisticated means than outright discrimination of limiting access to credit is the use of redlining, a practice by which financial institutions refuse to finance a home purchase on the basis of geographic location. The roots of this practice may be traced to the work of a few notable urban sociologists – particularly Ernest W. Burgess, who leveraged plant ecology to metaphorically pathologize the African-American community – and economists – such as Homer Hoyt and Frederick Babcock – who help integrate pathological attitudes into lending practices (Immergluck, 2004). Having been influenced by such schools of thought, appraisers and lenders operated to disproportionately exclude African-Americans from homeownership by connecting loan risk with neighborhood racial composition and neighborhood change criterion (Immergluck, 2004). Connecting loan risk levels impact prospective homebuyers of any race seeking to acquire property in either racially mixed or predominately African-American neighborhoods significantly reduces loan approval rates. Prospective African-American homebuyers seeking to acquire property in predominately white neighborhoods would most certainly face eminent denial leveraging the cited rationale.

Implications

Given the provisions previous outlined for both conventional (backed by Freddie Mac or Fannie Mae) and FHA loans, the prospects for prospective borrowers burdened by student debt seem to be quite low. While FHA mortgage loans would appear to be the best option for applicants with significant student debt burden, the methodology used to factor in student loan payments into DTI ratio calculations could restrict access to a sizeable group. It is reasonable to assert that carriers of large debt burdens may not have strong credit ratings (presence of defaults or delinquencies directly or indirectly attributable to student loan debt), may be burdened with high repayments relative to income, or may have less access to capital to put towards a down payment. Given that high-skilled jobs are on the rise and average student debt burden is on the rise, the scope of this problem can only get larger if left untreated. Without a viable policy or programmatic solution, there may be significant impacts on the housing market and wealth divide throughout the nation.

Fannie Mae Student Loan Solutions Program

In response to growing concerns over barriers to homeownership caused by excessive student loan debt, Fannie Mae has implemented new policies to increase access to debt financing. The polices aim to empower lenders by creating provisions which ostensibly aim to respond to challenges uniquely faced by impacted prospective homebuyers. Table 1 below provides a description of these provisions.

Table 1 - Description of Student Loan Solutions Program (Fannie Mae, 2017)

Provision	Description
Offer borrowers an option to pay off debt and get a better interest rate.	• Lenders can offer homeowners who have at least 20 percent equity in their homes a cash-out refinance to pay off one or more student loans. • Borrowers will have an opportunity to convert higher interest rate student debt to a lower interest rate and potentially reduce monthly debt payments. • When at least one student loan is paid off directly to the student loan servicer and delivered to Fannie Mae with Special Feature Code 841, we will waive the loan-level price adjustment.
Exclude debt paid by others, potentially lowering a borrower's DTI	• Lenders can exclude a borrower's non-mortgage debts (such as credit card, auto, and student loans) that have been paid by others for the past 12 months from the debt-to-income (DTI) ratio calculation, with proper documentation.
Accept the debt amount on the credit report	• Lenders can simply accept the monthly student debt payment amount listed on the credit report. • No need to manually calculate 1 percent of the loan balance in most cases. • With a different approach to DTI, lenders may be able to serve more borrowers

Explanatory Theories

Two applicable theories which help explain why the mortgage application process is set up as it currently is as well as some of the expected outcomes of the case study analysis have been identified. The first is Moral Hazard, followed by the Ability-to-Pay (or Cash Flow) theory of default. Ultimately, the theories help supplement not only findings from the analysis, but also the recommended course of actions put forward towards the end of this paper.

Moral Hazard

This framework is applicable for transactions between two parties whereby one lacks incentive to guard against risk to the detriment of the other. In other words, the party enters into the transaction not only with full knowledge of the risks involved, but that the consequences of the realized risk will be disproportionately incurred by the other party. Within a financial market, particularly the mortgage market, there exists risk and uncertainty in that the borrower may engage in undesirable activities such that they may put them at risk of not being able to repay the loan (The Economic Times, 2017).

This framework provides the rationale for why lending institutions utilize various debt measures to determine the amount of financing to provide to prospective borrowers. An increase of any type of debt poses a risk that a borrower will default on a mortgage, which would produce negative outcomes for both the borrower and the bank. The bank manages such risk by screening the applicants using various interrelated measures such as credit history, and back-end debt-to-income ratio (includes housing related costs and other debt obligations). The higher the debt-to-income ratio and the lower the credit score, the higher the risk that the prospective borrower will default on the mortgage. This assessment will not only impact whether the prospective borrower is pre-approved for a mortgage, but also the dollar value of the pre-approval.

Ability-to-Pay Theory of Default

Within this framework, borrowers will successfully make periodic (usually monthly) debt-service payments toward a primary residential mortgage provided that the borrower has a sufficient stream of income. Therefore, the probability of default on the mortgage is directly related to net income prior to the mortgage payment. From the perspective of the lender, debt service ratio (DSR), which is the ratio of periodic principal and interest payments to income, is prioritized as a measure of affordability of a prospective lender (Wong, Fung, Fong, & Angela, 2004).

From this, lending institutions utilize measures to assess risk of default of prospective borrowers as it relates to income. These measures include employment history, annual gross salary, amount of financial assets including any savings, or other sources of income such as those from an investment. Annual gross salary is used to calculate front-end debt-to-income ratio (factors in housing-related costs only and excludes other debt obligations), which is similar to DSR. A higher front-end debt-to-income ratio indicate lower risk of default. This validity of this assessment is market and property-specific. In other words, all other factors being equal, a stream of income within one local market area will yield a different determination of financial risk than in another market, where real estate could be significantly more or less expensive.

Implications

From the theories in concert with the content provided in the literature review above, it is reasonable to expect that prospective borrowers will struggle to qualify for mortgages in three key areas: DTI ratio (front-end and back-end), credit history, and down payment. While the second has been empirically demonstrated within the study published by the Federal Reserve Bank of Washington, DC in 2016, the others have not (at least not explicitly), though the study did empirically demonstrate a causal link between student loan debt and homeownership. Given the equity issues discussed previously, these struggles should manifest more for black mortgage applicants compared to white mortgage applicants. Given that higher education is correlated with higher income as well as higher debt, a two-way relationship is expected regarding student debt loan burden and DTI ratio and down payment. Further quantitative research could ostensibly determine the existence, magnitude, and direction of causality for both.

Research Design and Methods

This applied research seeks to explore and describe the suitability of current policy and programming in increasing access to homeownership for prospective borrowers burdened by student loan debt. There are four underlying premises with which this study is based upon. First, there is a causal relationship between student loan debt and homeownership, and that the direction of causality could flow from either direction. However, the purposes of this study, the focus is solely on the flow of causality from right to left; that is, the impact on homeownership as it pertains to the student loan debt burden of the prospective borrower. The second premise is that the causal relationship between student loan debt and homeownership is an inverse relationship. In other words, the probability of homeownership at a certain point in time decreases as the amount of burden increases. Both two premises have been empirically demonstrated via a quantitative analysis performed by analysist at the Federal Reserve Bank of the District of Columbia. The third premise relates to the virtues of homeownership, and that not only will people seek it, but that there are inherent economic and non-economic benefits for prospective homeowners. Last, higher education is not only coveted, but necessary, considering today's economy with its demand for highly skilled and trained labor force. Thus, it is reasonable to expect there to be a continued persistence of graduates who leveraged student loans to finance the cost of education, many of which will carry a significant debt burden.

Research Questions

This study will explore how well current policy and programming mitigate barriers faced by prospective borrowers burdened by student loan debt in obtaining debt financing toward the purchase of a primary residential property. Particularly, this study will contribute to this broad area by exploring the suitability of Fannie Mae's Student Loan Solutions Program in addressing the barriers to obtaining a mortgage. The expected outcome of this inquiry is to expose areas for improvement for the current policy or expose opportunities for additional policies with which to achieve the intended outcomes.

Research Design

A case study research design approach was employed for this endeavor. The geographic location of the case study is Atlanta Metropolitan Statistical Area, which located in the state of Georgia and consists of 29 counties. The case study will leverage data at the national level as well as data at the local level to expose trends and highlight key issues. The period of analysis is between 2013 and 2016, and will include data on mortgage applications, households with and without a mortgage, education statistics, and student loan debt burden trends. From this, indications of the health of homeownership and potential stressors as caused by the presence of student debt burden are determined.

Data and Analysis Plan

This study uses a combination of primary and secondary data. Primary data sources include a number of individuals employed at related local institutions providing a number of services to prospective borrowers including counseling and direct processing (see Table 2). These sources mainly provide qualitative data, which will ostensibly provide important contextual information for this study.

Table 2 - Primary Data Sources

	Organization	Role
1	Invest Atlanta	Homeownership Manager
2	Loan Depot	Loan Consultant
3	Castle & Cook Mortgage, LLC	Branch Manager

Secondary data sources largely provide quantitative data towards the analysis (Table 3). The data was publicly available and, thus relatively easy and straightforward to obtained via conventional means. Data on education statistics and homeownership trends, specifically mortgage-bearing households, is collected. Data on mortgage applications, as reported via the Home Mortgage Disclosure Act, were obtained and analyzed. Lastly, data on student loan debt burden on residents of the Atlanta MSA is collected via a collection of online news articles.

Table 3 - Secondary Sources

Data	Medium	Publisher/Author	Year
Housing Characteristics	American Community Survey	Census Bureau	2013 - 2016
Education Statistics and Trends	American Community Survey	Census Bureau	2013 - 2016
Mortgage Application Data for 2016	Home Mortgage Disclosure Act (HMDA)	Federal Financial Institutions Examination Council	2013
Student Loan Debt Burden in Atlanta	Article	Lending Tree	1Q 2018

Data analysis is performed independently on each category of data identified in table 3. This analysis seeks to expose discernable and relevant trends within each area. These identified trieds will be analyzed in search for certain themes and matched with those identified from within the literature review. Lastly, qualitative information provided from the priamry data sources will be incorporated to add additional context to the quantitative analysis. From this, an assessment of the potential effectiveness and impact of the Student Loan Solutions Program may be determined.

Case Study: Atlanta Metropolitan Statistical Area

Figure 7- Atlanta Metropolitan Statistical Area (Atlanta Metro Chamber of Commerce, 2018)

The Atlanta-Sandy Springs-Roswell Metro Area, located in the state of Georgia hosts a population of about 5.8 million and spans a little over 8.6 thousand square miles of land, which is equivalent to about 667 persons per square mile. The median age of the population is 36.2, with 25% of the population under the age of 18, 63% between the ages of 18 and 63, and 12% over the age of 65. Nearly 50% of the total population identifies as white (48%), while 33% identifies as black, and the remaining identifying as native, other, or multiple racial categories. There are about 2.1 million households and 2.3 million housing units throughout the region of which the median value is $197,700 (U.S. Census Bureau, 2016).

From 2013 to 2016, there was a net increase in the total population by about 1.4% per year. According to 20-county forecasts developed by the Atlanta Regional Commission (ARC), the area population is expected to increase to about 8 million by the year 2014, which is an increase of about 2.2 million over the 2016 population. Along with the projected population increase are projections increases for jobs, around the tune of about 1 million, by 2040 (Atlanta Regional Commission, 2018).

Selected Housing Characteristics

Table 4 - Housing Unit Characteristics 2013 - 2016

	2013	2014	2015	2016
Total Housing Units	2,178,612	2,189,138	2,202,308	2,219,590
Occupied	1,917,581	1,936,823	1,964,316	1,994,730
Owner-Occupied	1,533,735	1,536,350	1,549,631	1,574,241
Units with a Mortgage	1,257,614	1,250,064	1,248,212	1,256,742
Units without a Mortgage	276,121	286,286	301,419	317,499
Renter-Occupied	383,846	400,473	414,685	420,489
Vacant	261,031	252,315	237,992	224,860

The total housing units in Atlanta MSA at the end of 2016 was 2,219,590, where 90% were occupied with the remaining 10% vacant. Atlanta boasts a significantly higher vacancy and occupancy rates compared to the nation-wide rates, which were at 87.5% and 12.5% respectively. In addition to the 10% vacancy rate, the break-down of the housing units in the area included owner-occupied with a mortgage (56.6%), owner-occupied without a mortgage (14.3%), or renter-occupied (19%).

Table 5 - Change in Housing Characteristics for Atlanta MSA 2013 - 2016

	2013	2014	2015	2016	Average
Total Units		10,526	13,170	17,282	13,659
		0.48%	*0.60%*	*0.78%*	*0.62%*
Occupied Units		19,242	27,493	30,414	25,716
		1.25%	*1.79%*	*1.96%*	*1.67%*
Owner-Occupied		2,615	13,281	24,610	13,502
		0.17%	*0.86%*	*1.59%*	*0.87%*
Units with a Mortgage		(7,550)	(1,852)	8,530	(291)
		-0.60%	*-0.15%*	*0.68%*	*-0.02%*
Units Without a Mortgage		10,165	15,133	16,080	13,793
		3.68%	*5.29%*	*5.33%*	*4.77%*
Renter-Occupied		16,627	14,212	5,804	12,214
		4.33%	*3.55%*	*1.40%*	*3.09%*
Vacant		(8,716)	(14,323)	(13,132)	(12,057)
Vacant		*-3.34%*	*-5.68%*	*-5.52%*	*-4.84%*

The Atlanta metro area saw consistent net gains in the total number of housing units and decrease in vacancies between 2013 and 2016. The total housing units have increased at an average rate of 0.6% per year, with each annual net increase increasing from the previous. Vacancy rates decreased at an average rate of 4.8% per year, much faster than the average rate of increase in housing units. These are clear signs of a relatively active and booming housing market as evidenced by the apparent increased demand in housing.

While net gains in total housing units were consistent between 2013 and 2016, there were notable losses in key areas in 2014 and 2015. During those two years, while there were net losses of owner-occupied units with a mortgage, there were net gains in owner-occupied units without a mortgage, and renter-occupied units. In 2016, however, net gains were noted in the number of owner-occupied units with a mortgage, significant in magnitude compared to the magnitude of the losses during the previous years. Renter-occupied units and owner-occupied units without a mortgage consistently increased during this time, with a growing rate of decrease in the number of units without a mortgage and a shrinking rate of decrease in renter-occupied units.

Table 6 - Detailed Change in Housing Characteristics in Atlanta MSA 2013 - 2016

	2013	2014	2015	2016
Total Housing Units		(7,550)	(1,852)	8,530
Housing Units with a Mortgage		(17,715)	(16,985)	(7,550)
Householder 15 to 34 years		(12,737)	(9,220)	(3,931)
Householder 35 to 44 years		(10,647)	(13,282)	(10,737)
Householder 45 to 54 years		(4,738)	(4,009)	(3,265)
Householder 55 to 59 years		521	16	1,291
Householder 60 to 64 years		955	855	474
Householder 65 to 74 years		5,451	6,711	6,540
Householder 75 years and over		3,480	1,944	2,078
Housing Units without a Mortgage		10,165	15,133	16,080
Householder 15 to 34 years		1,428	1,238	749
Householder 35 to 44 years		1,250	2,400	1,564
Householder 45 to 54 years		1,958	2,687	3,014
Householder 55 to 59 years		1,620	2,458	2,012
Householder 60 to 64 years		1,170	867	1,601
Householder 65 to 74 years		3,322	4,059	4,810
Householder 75 years and over		(583)	1,424	2,330

Inspecting the data at a deeper level, it appears that the net gains and net losses in key areas are stratified along age groups. From 2013 to 2016, there were consistent net losses in the number of owner-occupied units with a mortgage for householders between the ages of 15 and 54. Conversely, there were consistent net gains in owner-occupied units with a mortgage for householders between age 55 and up. Net gains in the number of owner-occupied units without a mortgage were consistent for all age groups, though the gains tended to be larger in magnitude for the for householders over age 55 compared to householders under age 55.

The data is suggestive of a decrease in buying power of the age-cohort under age 55. While there were consistent losses in owner-occupied units with a mortgage for householders under age 54, there were consistent increases for householders over age 55. Given previously explored data on the distribution student loan debt burden by age, this gives cause for concern for accessibility of homeownership for students burdened by student loan debt. The data is suggestive of a booming market in the region that, to date, only a select group of prospective buyers may have been able to take advantage of.

Education Statistics

Table 7 - Education Attainment in Atlanta MSA 2013 – 2-16

	2013	2014	2015	2016
Total Population	5,379,176	5,455,053	5,535,837	5,612,777
Age 24 and below	1,907,806	1,923,274	1,938,500	1,950,144
Age 25 and above	3,471,370	3,531,779	3,597,337	3,662,633
Less than a Bachelor's Degree	2,258,731	2,285,562	2,307,710	2,326,309
Bachelor's Degree or Higher	1,212,639	1,246,217	1,289,627	1,336,324

Table 8 - Percentage Education Statistics in Atlanta MSA 2013 - 2016

	2013	2014	2015	2016
Age 24 and below	35.47%	35.26%	35.02%	34.74%
Age 25 and above	64.53%	64.74%	64.98%	65.26%
Less than a Bachelor's Degree	65.07%	64.71%	64.15%	63.51%
Bachelor's Degree or Higher	34.93%	35.29%	35.85%	36.49%

Table 9 - Change in Education Statistics in Atlanta MSA 2013 - 2016

	2013	2014	2015	2016
Age 25 and above		1.74%	1.86%	1.82%
Less than a Bachelor's Degree		1.19%	0.97%	0.81%
Bachelor's Degree or Higher		2.77%	3.48%	3.62%

In 2016, there were 3,662,633 persons who were age 25 or above, which represented 65.5% of the total area population. Of this, 36.5 had obtained a bachelor's degree or higher from a post-secondary education institution, while 63.5 had obtained either an associate's degree or some college education, a high school diploma or equivalent, or had not completed high school. Between 2013 and 2016, the population of persons with a bachelor's degree or higher has increased an average rate of 3.3% per year, with the year-to-year annual rate increasing with each successive year. During the same time, while increasing at an average rate of 1% per year, the year-to-year rate of increase of persons with less than a bachelor's degree shows a downward trend.

It follows that an increase of persons age 25 and over with a bachelor's degree or higher will bring an influx of persons burdened by student loan debt. Using historical data as an indicator, average debt burden is poised to increase for each new graduate. Thus, not only will the number of persons burdened by debt increase in the region, but the average burden will also increase.

Student debt Burden

On May 30, 2018 Lending Tree ® published a study which ranks places by the amount of student loan debt held by its residents. Data for the study was assembled by analysists who took a sample of anonymized users who had logged onto a company site during the first quarter of 2018. From the data, the analysts calculated the number of users who carried student loan debt in addition to other related statistics. From this, it was determined that Atlanta ranked second, behind the District of Columbia, of cities with the highest amount of student debt. According to the study, the median balance was at $22,232, with about 26% owing more than $50,000, and about 9% owed more than $100,000. Atlanta ranks fourth among cities where persons own more than $100,000 in student loan debt. The average percentage of those owing more than $100,000 across major metropolitan areas is 6% (Greuling, 2018; McFadden, 2018).

Mortgage Application Data

Table 10 - 2016 HMDA Mortgage Application Data for Owner-occupied Primary Residences

Denial Reason	*All*	*Black*	*White*	*Other Race*
Not Provided	3,182	1,155	1,343	684
Debt-to-Income Ratio	2,351	854	911	586
Employment History	326	102	137	87
Credit History	1,694	696	632	366
Collateral	1,683	484	779	420
Insufficient Cash	800	267	327	206
Unverifiable Information	554	191	220	143
Credit Application Incomplete	1,060	317	474	269
Mortgage Insurance Denied	22	7	12	3
Other	861	305	330	226
Denied	10,692	3,660	4,462	2,570
Approved	80,101	16,113	47,108	16,880
Total	90,793	19,773	51,570	19,450

In 2016, 359,120 mortgage applications were submitted by were prospective borrowers in Atlanta MSA. This study focused on only 90,793 (25%) of those applications, which were for either conventional or FHA-insured loans for primary and owner-occupied residences in the area. Also, the data was filtered to incorporate only those applications which resulted in an approval, a loan origination, or a denial for pre-approval or application by the financial institution.

Table 11- HMDA Mortgage Application Data Summary

	All	*Black*	*White*	*Other*
Debt-to-Income Ratio	25.1%	26.5%	23.8%	25.4%
Employment History	3.5%	3.2%	3.6%	3.8%
Credit History	18.1%	21.6%	16.5%	15.9%
Collateral	18.0%	15.0%	20.4%	18.2%
Insufficient Cash	8.6%	8.3%	8.6%	8.9%
Unverifiable Information	5.9%	5.9%	5.8%	6.2%
Credit Application Incomplete	11.3%	9.8%	12.4%	11.7%
Mortgage Insurance Denied	0.2%	0.2%	0.3%	0.1%
Other	9.2%	9.5%	8.6%	9.8%

Percent Denied	12.8%	18.7%	9.5%	13.6%
Percent Approved	87.2%	81.3%	90.5%	86.4%

Overall, 13% of mortgage applications or requests for preapproval were denied or rejected. For black or African-American applicants, this number was significantly larger, with a percentage of 19%. On the other hand, this metric was significantly smaller for white applicants, with a rate of about 9.5%. There was a higher number of denied applications for white applicants than there were for black applicants, though there were more than twice as many applications from white applicants.

The top three reasons applications are denied is due to debt-to-income ratio, credit history, and collateral. For both black and white applicants, the debt-to-income ratio was the number one reason for denial or rejection of an application. For black applicants, the number two reason related to credit history, while the number two reason for whites related to collateral. For each category, insufficient cash represented the 6th most common reason mortgage applications or requests for preapproval were rejected or denied.

Table 12 - HMDA Application Data: FHA vs. Conventional Loans

	FHA Loans				**Conventional Loans**			
	All	Black	White	Other	All	Black	White	Other
Approved	35.7%	13.3%	17.0%	5.3%	64.3%	6.8%	41.8%	15.7%
Denied	43.9%	20.8%	15.3%	7.7%	56.1%	13.4%	26.4%	16.3%
All	36.6%	14.2%	16.8%	5.6%	63.4%	7.6%	40.0%	15.8%

Analysis of mortgage applications in 2016 yield distinctive differences between those for FHA-insured loans and conventional loans. In 2016, 63.4% of applications were for conventional loans while 36.6% were for FHA loans. A larger share of approved applications was for conventional loans as compared to denied applications, where the former was 64.3% and the latter was 56.1%.

Table 13 - HMDA Data: Combined FHA and Conventional Loan Percentages

Approved	*All*	*Black*	*White*	*Other*
No Co-applicant	87.2%	81.3%	90.5%	86.4%
Co-applicant	90.5%	82.2%	92.8%	87.8%
Total	88.2%	81.5%	91.3%	86.8%

Denied	*All*	*Black*	*White*	*Other*
No Co-applicant	12.8%	18.7%	9.5%	13.6%
Co-applicant	9.5%	17.8%	7.2%	12.2%
Total	11.8%	18.5%	8.7%	13.2%

Table 14 - HMDA Data: FHA and Conventional Loan Percentages

	FHA Loans				*Conventional Loans*			
Approved	All	Black	White	Other	All	Black	White	Other
No Co-applicant	85.6%	82.8%	89.1%	83.5%	88.3%	78.3%	91.2%	87.6%
Co-applicant	87.0%	82.2%	89.8%	84.9%	91.7%	82.1%	93.7%	88.4%
Total	85.9%	82.7%	89.3%	83.8%	89.6%	79.2%	92.2%	87.9%

	FHA Loans				*Conventional Loans*			
Denied	All	Black	White	Other	All	Black	White	Other
No Co-applicant	14.4%	17.2%	10.9%	16.5%	11.7%	21.7%	8.8%	12.4%
Co-applicant	13.0%	17.8%	10.2%	15.1%	8.3%	17.9%	6.3%	11.6%
Total	14.1%	17.3%	10.7%	16.2%	10.4%	20.8%	7.8%	12.1%

Finally, differences on racial boundaries were observed between FHA loan applications and Conventional loan applications. A larger percentage of black applicants applied for FHA loans as opposed to white applicants who most applied for conventional loans. Also, black applicants were more likely to be denied when applying for conventional loans than FHA loans. White applicants, on the other hand, were more likely to be denied when applied for FHA loans as opposed to conventional loans.

Overall, analysis of the mortgage application data collected through HMDA yields a number of important findings. First, whites were more likely to apply for mortgages than other racial groups, and that this disparity is not entirely explained by population differential. Though there are, on average, about 1.4 times as many whites in the metro area as blacks (the white population is 47.7% and the black population is 33.4%, whites submitted 2.6 times more applications. Second, of all mortgage applications submitted from those of all racial categories, if rejected, are most likely to be rejected due issues related to debt-to-income. Black applicants were more likely to have their applications rejected due to credit history than others. Applicants from all racial categories were almost equally likely to have applications rejected due to having insufficient cash to put towards a down payment. Third, the preponderance of mortgage applications was for conventional loans as opposed to FHA-insured loans. White applicants tended to apply for conventional loans while black applicants tended to apply for FHA loans. FHA loans appear to be more beneficial for black applicants than for white applicants, in that black applicants tended to be denied less for FHA loans than for conventional loans while the opposite is true for white applications.

Findings

Thematic analyses on information obtained via the literature review, primary data sources, and secondary data sources form the basis with which the Student Loans Solutions Program is evaluated. From this, a set of programmatic or policy recommendations will be articulated and elaborated upon. Categorized summaries of salient themes from each section are provided below.

Literature

Student loan debt is a burden that will not disappear any time soon. Total national debt has increased an average of 3% per year since 2003 and, to-date, impacts about 42.8 million borrowers. Some demographics are significantly impacted by student loan debt than others. Looking at 10-year age cohorts, those between the ages of 25 to 34, and 35 to 49 carry the most outstanding debt. Black borrowers are more impacted by the debt compared to their white counterparts due to such issues as historical intergenerational wealth disparities, differential enrollment in private post-secondary institutions, and employment discrimination. As a result, they carry disproportionately higher debt burdens as well as face significantly higher loan default rates. For all borrowers, issues of predatory lending, cost of education, and loan defaults both contribute to and further compounds the negative outcomes.

Available mortgage products (before implementation of the Student Loan Solutions Program) make homeownership challenging if not impossible for those burdened by student loan debt. Though FHA-insured mortgages are both more common and favorable for first-time homebuyers in comparison to conventional mortgage products, some provisions have shown themselves prohibited for this population, such as the methodology for incorporating student loan repayment into debt-to-income ratio calculations.

Prior empirical research has demonstrated a causal link between student loan debt and homeownership on a national scale. This demonstration supports predictions as implied by Moral Hazard theory and the Ability-to-pay Theory of default. These theories also help further point to disparate outcome along race as well as age cohort, given that student loan debt levies disparate impacts for each group.

Secondary Data Analysis

Due to the booming housing market and proportion of the population with a bachelor's degree or higher, the Atlanta metropolitan statistical area made a worked well as a subject for the case study analysis. The regional population increased consistently between 2013 and 2015. While the proportion of the population 25 and over increased, the proportion of those with less than a bachelor's degree decreased while the proportion of those with a bachelor's degree or higher increased. With the increase of those with a post-secondary degree comes an increased average student loan debt burden. Being ranked only behind Washington, DC as a metropolitan area where residents are most burdened by student loan debt, the outlook contains no signs of this changing.

The region boasts a higher percentage of owner-occupied properties compared to the national average, with that number increasing during the study period. However, these gains are noted for the age cohort over the age of 55, while the number of owner-occupied homes with a mortgage. Incidentally, this cohort also faces the brunt of student loan debt burden according to nationwide data. The implications could potentially be not only that prospective mortgagees face decreased access to homeownership, but that, as the cohort ages, this decreased power may spill over into the older age cohorts. Also, there may be near-term implications for those who'd wish to sell their homes who might face barriers due to the weakened borrowing power of millennials and generations behind them.

Mortgage application data from 2016 further illuminates troubling trends in the housing market. First, there were a disproportionate number of white and black mortgage applicants relative to their representation among the overall area population. Second, the top three reasons applications were denied were due to debt-to-income ratio, credit history, and collateral and that cash ranked 6th. The next findings were related to the type of mortgage loan. White applicants tended to apply for conventional loans while black applicants tended to apply for FHA-backed mortgages. Also, rate of denials for white applicants were higher for FHA loans than for black applicants while the opposite is true for black applicants.

Primary Data Sources

A thematic analysis of data obtained from primary data sources was performed. From this, three themes emerged related to causes for denied mortgage applications: debt-to-income ratio, sources of debt, and credit history. Down payment, one of the prominent themes of this analysis, did not emerge as salient themes to the extent as the two identified. The information provided by the respondents provide further and valuable background to theory-driven expectations and findings from qualitative analysis of secondary data.

Debt-to-income Ratio

One interviewee explicitly cited debt-to-income ratio as the number one reason for failure to approve mortgage applications for lending. A different interviewee provided further insight into these classification of application denials. The first cause was related to the incorporation of student loan debt repayment into the calculation of the DTI ratio. As described previously, student loan repayment is calculated as 1% of the outstanding balance for FHA-insured loans, even if those loans were not in repayment. According to the interviewee, applicants tend to be unaware of this stipulation prior to submitting their application.

The second underlying cause of high DTI ratios are related to the retail price of the property. This implies decreased purchasing power of first-time homebuyers burdened with student loan debt. This will cause prospective buyers to make one or more concessions on housing characteristics (size of the home, number of bedrooms, etc.) or neighborhood amenities (e.g. access to quality schools, public services, walkability, etc.).

Sources of Debt

There were other noteworthy findings reported by the interviewees related to total debt owned by perspective borrowers. One noted that, among the many applications processed, that there was a tendency for student loan debt burden to outweigh other types of debt. A second interviewee provided more quantitative metrics. First, it was noted that an “exorbitant” amount of student loan debt is typically present for about 3 out of 10 applicants. Furthermore, for about 2 out of 10 of those with an exorbitant student loan debt burden, it single-handedly caused the application to be denied.

Credit History

From the interviews, it appeared that credit history was not as salient of an issue than debt-to-income ratio calculations or sources of debt. They noted, however, that as long as payments are made consistently and timely, there should be no direct effect to credit rating. However, one noted the inherent dangers of falling into delinquency status on their student loan repayments. Specifically, the respondent noted that the status could stick to someone’s credit report for at least six months, even if that person had caught up before that time. Therefore, there could potentially be an issue for those who have missed as little as one payment in the past, but had yet to cross the six-month time frame before the credit report no longer reflects this. Also, delinquencies on credit reports and resulting lowered credit ratings may implicitly or explicitly factor into many prospective applicants from opting not to apply, which seems like a reasonable explanation as to why none of the interviewees reported credit being as salient of issues as debt-to-income ratio.

Student Loan Solutions Program Assessment

Fannie Mae's Student Loan Solutions Program seeks to expand accessibility for homeownership for those burdened by student debt. Its perks are available to those who apply for and qualify for a conventional loan ensured by the entity. The provisions offered by the program expand homeownership opportunities through three mechanisms. First, the program provides an option for current homeowners to pay off debt or lower student loan repayment interest rates using home equity. Second, lenders are permitted to exclude debt paid by others, potentially including student loans, when calculating DTI ratios. Third, lenders are allowed to leverage payments as shown on credit reports as opposed to leveraging other methods which would lead to incorporating higher payment amounts.

Using the previously discussed economic theories, it follows that prospective borrowers burdened by student loan debt may struggle to qualify for mortgages in three key areas: debt-to-income ratios, credit history, and down payment. No matter an individual's income, a higher debt will reduce debt-to-income ratios, though it can be to an extent mitigated by income. As debt increases, the probability for delinquencies and default increase, all of which have negative impacts on credit history. Though all mortgage products come with credit score minimums, some may be more forgiving than others. However, such leniency can come at the expense of the interest rate, which could raise an applicant's debt-to-income ratio. Lastly, increased debt reduces opportunities to establish liquid wealth. Qualification for a mortgage is highly contingent on the borrower having access to minimum amount of cash to contribute towards a down payment.

From this, many strengths and benefits of the provisions offered by the Student Loan Solutions Program are observed. Regarding benefits, two of these provisions address barriers to mortgage loan application approval related to debt-to-income ratio. In 2016, this proved to be the number one barrier for 2016 applicants in Atlanta MSA. First, the provision which allows student loan debt repayments satisfied by a third party to be omitted from debt-to-income-ratio calculations appears to be most beneficial for those participating in student loan forgiveness programs where the employer makes periodic payments in exchange for fulfilling an employment-based obligation. This would not apply for federal student loan forgiveness as the benefits are delivered via lump sum. Also, accepting student loan repayment amounts reported on the credit report seems most beneficial for those enrolled in an income-based or other graduated repayment plan or those whose loans are in deferral or forbearance. In the case of those making graduated repayments, the repayment amount would ostensibly start off at an amount significantly less than what would have been calculated using the 1% calculation approach, which would prove beneficial to the prospective borrower. The same would be true for those whose loans are in deferral or forbearance.

The weaknesses of these provisions are that they neither address barriers as they relate to credit history or down payment. Credit history emerged as the number 2 reason why applications were denied, and was more prominent for black applicants than for white applicants. Applicants with lower credit scores are subjected to higher interest rates in both FHA and conventional-backed mortgage products, which also impacts debt-to-income ratio via increased housing-related costs. It should be no surprise then that black applicants are driven to FHA loans more often than conventional loans, and consequently subjected to having 1% of the total outstanding balance of their student loans used to calculate their debt-to-income ratio. While down-payment emerged as a lower-ranking factor looking at the 2017 data, it is reasonable to assert that it may lead to a lower application rate, particularly for prospective black applicants. Taking into consideration reduced intergenerational wealth transmission potential and access, having to direct income to student loan (or other) debt obligations leaves less income that can be directed to homebuying or other investment or wealth-building opportunities.

Recommendations

While the Student Loan Solutions Program offers a number of important benefits to prospective homebuyers burdened by student loan debt, there are a number of areas where the program could be strengthened. Table 15 below provides high-level details on the programmatic recommendations of this study in comparison to current and legacy mortgage loan programs.

Table 15 - Programmatic Recommendations

Provision	**Student Loan Solutions Program**	**Student Loan Solutions Program** (Modified)	**Traditional**	**Traditional** (Modified)
	Fannie Mae	Fannie Mae	FHA	FHA
Offer borrowers an option to pay off debt and get a better interest rate.	X	X		
Exclude debt paid by others, potentially lowering a borrower's DTI	X	X		
Accept the debt amount on the credit report	X	X		X
Calculate student debt based on 1% of outstanding balance			X	
Lower minimum credit score in exchange for higher interest rate			X	X
Adjust credit requirements to account for student debt		X		X

Modified Student Loan Solutions Program. To address the weakness identified in the current program, this proposal seeks to add a provision for barriers related to credit score. Instead of factoring in the credit score as reported by credit agencies, lenders will have the ability to provide a modified score based solely on the presence of student loan debt. The presence of student loans can indirectly impact a prospective borrower's credit score, particularly for those who may have at some point been forced to forego debt obligations in the past in favor of maintaining favorable status with student loan debt. Also, delinquencies can linger on credit for about 6 months, even if the payer has come up to speed on repayment significantly earlier than that time frame. Also, adjusting the reported credit score would decrease the prospective borrower's interest rate, which would also lower the debt-to-income ratio. This option is ideal for those who have sufficient income and savings and, except for credit issues, would otherwise have been an ideal candidate under the standard conventional mortgage program.

Modified FHA-backed loans. Though the traditional program expands homeownership opportunities to those with less-than-ideal debt-to-income ratio, cash for down payment, and credit history, the current policy of calculating DTI by factoring in 1 percent of the total outstanding balance may still be prohibitive for many who would otherwise qualify. In the proposed modification of the current FHA programming, lenders are allowed to leverage student loan debt as reported on the applicant's credit report as opposed to defaulting to using 1% of the total outstanding balance, which would increase accessibility to those on income-based repayment plans. Also, this recommended program modification incorporates modified credit score reporting to account for indirect impacts to credit history related to student loan debt. As described above, a higher reported credit score may decrease the interest rate of the prospective borrower, which lowers debt-to-income ratio.

Conclusions

Though the study yields findings which are in line with common knowledge, economic theory, and prior research, it makes no causal claims on the impacts of student loan debt on housing affordability as the increase in average individual and total nationwide student loan debt burden continues to increase. Also, it should be pointed out that while it is known that student loan debt is the second highest consumer debt nationwide, and that the Atlanta ranks second among metropolitan areas nationwide for student loan debt, it is unclear as to which debts contributed most to these denials. Therefore, it becomes a difficult task to evaluate the effectiveness of such program using a systematic and scientific approach without such knowledge.

The prior study published by the Federal Reserve Bank of Washington DC leveraged data which covered a period prior to the collapse of the housing market. The period of time following the collapse saw sweeping changes and reforms in the mortgage market and, hence, altered the way in which mortgages are packaged and accessed by prospective homeowners. Future research efforts ought to replicate this study or focus on similar research questions leveraging data collected when the policy updates went into effect to better represent how the market functions in current times.

In addition to the previously-cited individual quality-of-life impacts as they relate to increased student loan debt burden and decreased access to homeownership, there may also very well be significant micro- or macro-economic impacts if left unaddressed. At present, there exists a golden opportunity for research, academic institutions, and other relevant stakeholders to become more active in research activities in efforts to more clarifyingly describe the landscape and, therefore, be in a position to inform and involve federal policy makers and other stakeholders. Policy makers and key decision-makers would be well served to facilitate research such that the relevant inquiries may be more systematically explored such that important descriptive characteristics and causal mechanisms may be clearly identified and articulated.

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Appendices

Appendix 1 Student Loan Repayment Plans

REPAYMENT PLAN	ELIGIBLE LOANS	MONTHLY PAYMENT AND TIME FRAME	ELIGIBILITY AND OTHER INFORMATION
STANDARD REPAYMENT PLAN	• Direct Subsidized and Unsubsidized Loans • Subsidized and Unsubsidized Federal Stafford Loans • all PLUS loans • all Consolidation Loans (Direct or FFEL)	Payments are a fixed amount that ensures your loans are paid off within 10 years (within 10 to 30 years for Consolidation Loans).	• All borrowers are eligible for this plan. • You'll usually pay less over time than under other plans. • Standard Repayment Plan with a 10-year repayment period is not a good option for those seeking Public Service Loan Forgiveness (PSLF). • Standard Repayment Plan for Consolidation Loans is not a qualifying repayment plan for PSLF.
GRADUATED REPAYMENT PLAN	• Direct Subsidized and Unsubsidized Loans • Subsidized and Unsubsidized Federal Stafford Loans • all PLUS loans • all Consolidation Loans (Direct or FFEL)	Payments are lower at first and then increase, usually every two years, and are for an amount that will ensure your loans are paid off within 10 years (within 10 to 30 years for Consolidation Loans).	• All borrowers are eligible for this plan. • You'll pay more over time than under the 10-year Standard Plan. • Generally, not a qualifying repayment plan for PSLF.
EXTENDED REPAYMENT PLAN	• Direct Subsidized and Unsubsidized Loans • Subsidized and Unsubsidized Federal Stafford Loans • all PLUS loans • all Consolidation Loans (Direct or FFEL)	Payments may be fixed or graduated, and will ensure that your loans are paid off within 25 years.	• If you're a Direct Loan borrower, you must have more than $30,000 in outstanding Direct Loans. • If you're a FFEL borrower, you must have more than $30,000 in outstanding FFEL Program loans. • Your monthly payments will be lower than under the 10-year Standard Plan or the Graduated Repayment Plan.

REPAYMENT PLAN	ELIGIBLE LOANS	MONTHLY PAYMENT AND TIME FRAME	ELIGIBILITY AND OTHER INFORMATION
REVISED PAY AS YOU EARN REPAYMENT PLAN (REPAYE)	• Direct Subsidized and Unsubsidized Loans • Direct PLUS loans made to students • Direct Consolidation Loans that do not include PLUS loans (Direct or FFEL) made to parents	• Your monthly payments will be 10 percent of discretionary income. • Payments are recalculated each year and are based on your updated income and family size. • You must update your income and family size each year, even if they haven't changed. • If you're married, both your and your spouse's income or loan debt will be considered, whether taxes are filed jointly or separately (with limited exceptions). • Any outstanding balance on your loan will be forgiven if you haven't repaid your loan in full after 20 years (if all loans were taken out for undergraduate study) or 25 years (if any loans were taken out for graduate or professional study).	• Any Direct Loan borrower with an eligible loan type may choose this plan. • You'll usually pay more over time than under the 10-year Standard Plan. • You may have to pay income tax on any amount that is forgiven. • Good option for those seeking PSLF.

REPAYMENT PLAN	ELIGIBLE LOANS	MONTHLY PAYMENT AND TIME FRAME	ELIGIBILITY AND OTHER INFORMATION
PAY AS YOU EARN REPAYMENT PLAN (PAYE)	• Direct Subsidized and Unsubsidized Loans • Direct PLUS loans made to students • Direct Consolidation Loans that do not include (Direct or FFEL) PLUS loans made to parents	• Your monthly payments will be 10 percent of discretionary income, but never more than you would have paid under the 10-year Standard Repayment Plan. • Payments are recalculated each year and are based on your updated income and family size. • You must update your income and family size each year, even if they haven't changed. • If you're married, your spouse's income or loan debt will be considered only if you file a joint tax return. • Any outstanding balance on your loan will be forgiven if you haven't repaid your loan in full after 20 years.	• You must be a new borrower on or after Oct. 1, 2007, and must have received a disbursement of a Direct Loan on or after Oct. 1, 2011. • You must have a high debt relative to your income. • Your monthly payment will never be more than the 10-year Standard Plan amount. • You'll usually pay more over time than under the 10-year Standard Plan. • You may have to pay income tax on any amount that is forgiven. • Good option for those seeking PSLF.

REPAYMENT PLAN	ELIGIBLE LOANS	MONTHLY PAYMENT AND TIME FRAME	ELIGIBILITY AND OTHER INFORMATION
INCOME-BASED REPAYMENT PLAN (IBR)	• Direct Subsidized and Unsubsidized Loans • Subsidized and Unsubsidized Federal Stafford Loans • all PLUS loans made to students • Consolidation Loans (Direct or FFEL) that do not include Direct or FFEL PLUS loans made to parents	• Your monthly payments will be either 10 or 15 percent of discretionary income (depending on when you received your first loans), but never more than you would have paid under the 10-year Standard Repayment Plan. • Payments are recalculated each year and are based on your updated income and family size. • You must update your income and family size each year, even if they haven't changed. • If you're married, your spouse's income or loan debt will be considered only if you file a joint tax return. • Any outstanding balance on your loan will be forgiven if you haven't repaid your loan in full after 20 years or 25 years, depending on when you received your first loans. • You may have to pay income tax on any amount that is forgiven.	• You must have a high debt relative to your income. • Your monthly payment will never be more than the 10-year Standard Plan amount. • You'll usually pay more over time than under the 10-year Standard Plan. • You may have to pay income tax on any amount that is forgiven. • Good option for those seeking PSLF.

REPAYMENT PLAN	ELIGIBLE LOANS	MONTHLY PAYMENT AND TIME FRAME	ELIGIBILITY AND OTHER INFORMATION
INCOME-CONTINGENT REPAYMENT PLAN (ICR)	• Direct Subsidized and Unsubsidized Loans • Direct PLUS Loans made to students • Direct Consolidation Loans	• Your monthly payment will be the lesser of 20 percent of discretionary income, or • the amount you would pay on a repayment plan with a fixed payment over 12 years, adjusted according to your income. • Payments are recalculated each year and are based on your updated income, family size, and the total amount of your Direct Loans. • You must update your income and family size each year, even if they haven't changed. • If you're married, your spouse's income or loan debt will be considered only if you file a joint tax return or you choose to repay your Direct Loans jointly with your spouse. • Any outstanding balance will be forgiven if you haven't repaid your loan in full after 25 years.	• Any Direct Loan borrower with an eligible loan type may choose this plan. • You'll usually pay more over time than under the 10-year Standard Plan. • You may have to pay income tax on any amount that is forgiven. • Good option for those seeking PSLF. • Parent borrowers can access this plan by consolidating their Parent PLUS Loans into a Direct Consolidation Loan.
Income-Sensitive Repayment Plan	• Subsidized and Unsubsidized Federal Stafford Loans • FFEL PLUS Loans • FFEL Consolidation Loans	• Your monthly payment is based on annual income, but your loan will be paid in full within 15 years.	• You'll pay more over time than under the 10-year Standard Plan. • The formula for determining the monthly payment amount can vary from lender to lender. • Available only for FFEL Program loans, which are not eligible for PSLF.

Appendix II: HMDA Loan Application Register Format

MAXIMUM FIELDS	LENGTH	TYPE
As of Year	4	Numeric
Respondent ID	10	Alphanumeric
Agency Code	1	Alphanumeric
Loan Type	**1**	**Numeric**
Property Type	**1**	**Alphanumeric**
Loan Purpose	1	Numeric
Occupancy	1	Numeric
Loan Amount (000s)	**5**	**Numeric**
Preapproval	1	Alphanumeric
Action Type	1	Numeric
MSA/MD	**5**	**Alphanumeric**
State Code	2	Alphanumeric
County Code	3	Alphanumeric
Census Tract Number	7	Alphanumeric
Applicant Ethnicity	**1**	**Alphanumeric**
Co Applicant Ethnicity	1	Alphanumeric
Applicant Race 1	**1**	**Alphanumeric**
Applicant Race 2	1	Alphanumeric
Applicant Race 3	1	Alphanumeric
Applicant Race 4	1	Alphanumeric
Applicant Race 5	1	Alphanumeric
Co Applicant Race 1	1	Alphanumeric
Co Applicant Race 2	1	Alphanumeric
Co Applicant Race 3	1	Alphanumeric
Co Applicant Race 4	1	Alphanumeric
Co Applicant Race 5	1	Alphanumeric
Applicant Sex	**1**	**Numeric**
Co Applicant Sex	1	Numeric
Applicant Income (000s)	**4**	**Alphanumeric**
Purchaser Type	1	Alphanumeric
Denial Reason 1	**1**	**Alphanumeric**
Denial Reason 2	**1**	**Alphanumeric**
Denial Reason 3	**1**	**Alphanumeric**
Rate Spread	5	Alphanumeric
HOEPA Status	1	Alphanumeric
Lien Status	1	Alphanumeric
Edit Status	1	Alphanumeric
Sequence Number	7	Alphanumeric
Population	8	Alphanumeric
Minority Population %	6	Alphanumeric
FFIEC Median Family Income	8	Alphanumeric
Tract to MSA/MD Income %	6	Alphanumeric
Number of Owner-occupied units	8	Alphanumeric
Number of 1-to 4-Family units	8	Alphanumeric
Application Date Indicator	1	Numeric